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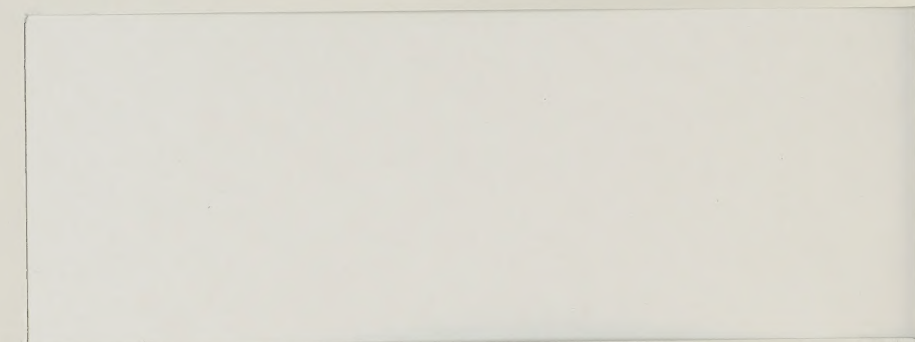
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# Agriculture Statistics Division

Methodology Paper

Farm Operating Expenses  
and Depreciation Charges: Data Sources,  
Concepts and Methods

Number 4





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Statistics Canada  
Agriculture Statistics Division  
Farm Income and Prices Section

Methodology Paper

Farm Operating Expenses  
and Depreciation Charges: Data Sources,  
Concepts and Methods

Number 4

by  
May Holbein

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## PREFACE

This report provides information about the series "Farm Operating Expenses and Depreciation Charges" which is published by the Agriculture Statistics Division of Statistics Canada. It has been prepared as part of an ongoing program of documentation within the Division.

The contents should be of interest to a wide variety of data users in government, education and industry, as well as the general public. Sources, concepts and methods which pertain to the published estimates have been discussed in detail. Although the focus is on the present, reference has been made to the past and future in many instances.

Special thanks go to Michael Trant who provided many helpful comments and ideas. Suggestions made by other colleagues from the Agriculture Statistics Division were also appreciated.





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## 1.0 INTRODUCTION

### 1.1 Purpose of the Report

This report reviews the current sources, concepts and methods which are being used in the estimation of farm operating expenses and depreciation charges. Strengths and limitations of the estimates, special adjustments, recent and proposed changes, and problems are discussed.

Related historical information about this series can be found in the Morris (1963) report and in various editions of Farm Net Income (Cat. 21-202). Details about the sources, concepts and methods relating to the farm cash receipts are given in the Beelen (1981) report.

There have been significant changes in the structure of agriculture in recent years. Paarlberg (1980) discusses these changes and makes predictions for the future of farming. He comments on trends such as decreasing farm numbers, larger farms, corporations, contract farming, increased off-farm income and vertical integration.

The data collection system is affected by these changes in the structure of agriculture. In the Nineteenth and early parts of the Twentieth Century when farms were very similar, complicated stratification was not required and a random response from a mail survey worked very well. In recent years, however, with farms

becoming increasingly specialized, larger and fewer in number, probability-type surveys are probably more appropriate vehicles for obtaining reliable quality estimates.

A revolution in office technology has also been taking place. Increasingly sophisticated techniques are being applied in survey design, data collection, analysis and the dissemination of statistics.

As a consequence of both changes in the structure of agriculture and advances in technology, agriculture finance information is continuously evolving. This report therefore provides information on the current sources, concepts and methods which relate to the preparation of the farm expense and depreciation charge statistics.

## 1.2 Organization of the Report

In the next section of this report, there is a discussion of the farm accounts. The first part deals with what is measured. Following this, topics such as data concepts, adjustments, limitations, comparisons with other countries, uses of the statistics and the reconciliation with National Accounts are presented.

Section 3 provides an overview of the estimation of expenses and depreciation charges. The current and future sources of information are described and an overview of the methodology is given in which the timing and reliability of the four sets of estimates are compared.



A detailed review of each expense item is presented in Section 4.

In each case, the sources, concepts and methodology which relate to the item are explained. Special adjustments and problems are mentioned and the reliability of the estimates is discussed.

The report concludes with a summary in Section 5. Following this, an appendix has been included which contains references, sources, tables and samples of questionnaires.

## 2.0 THE FARM ACCOUNTS

This section begins its examination of the concepts underlying the farm accounts by considering what the Division is attempting to measure. Definitions of farm net income, cash receipts, income-in-kind, operating expenses and depreciation charges, and the value of inventory changes are then provided. Three adjustments to the estimates are discussed and the limitations of the data are outlined. A comparison is made between the concepts used in Canada and those of the United States, England and Wales. Some uses of the agricultural finance statistics are given and the reconciliation with National Accounts is explained.

### 2.1 What is Measured?

Agriculture Statistics Division produces estimates of farm business income, capital value and farm debt. At the present time only an income statement is prepared, but there are plans to present a more complete picture of farm business activity in the future by developing annual flow of funds and balance sheet statistics.

Information on the well-being of the farm business has been published since 1926, while the preparation of information on the well-being of the farm operator has only been a more recent development.

Statistics on off-farm income are published by the Division but as a separate series in a separate publication.

Non-economic measures of the well-being of farmers such as job satisfaction, health and the enjoyment of country living are not measured and are not likely to be measured given the current system of national accounts and the ways in which countries measure the productivity of their economies.

#### 2.1.1 Income

The farm net income accounts are provincial farm business income statements of the farm business. In effect, the agricultural activity carried out in each province is reported as if it were all done on one large farm. These income statements do not show cash flows - therefore, there is no information regarding the sources of funds or the disposition of funds on capital expenditures.

Off-farm income estimates are made from taxation data. At the moment these figures are not combined with farm income statistics to provide measures of the total income of farmers because the estimates come from two different sources of data and as yet the differences between the populations are not completely reconciled.



### 2.1.2 Capital Value and Loans Outstanding

Complete balance sheets are not currently prepared by the Division although estimates of capital value and average farm debt outstanding are published.

The capital value series includes estimates of the value of some of the physical assets: land and buildings, machinery and vehicles, and livestock. Estimates of the value of financial assets or other physical assets, such as crops stored on farms, perennial crops (eg. orchards) and consummable stores (eg. fertilizer) are not made. July 1 is the reference date for the capital value series.

Average farm debt outstanding for a given year is estimated as a by-product of the process used in estimating interest expenses. It is published as a separate series.

Statistics on farmer's equity in the farm business, the difference between total assets and debts, are not prepared at this time though plans for the development of a Canadian balance sheet will make this information available.

## 2.2 Definitions

Definitions of farm net income, cash receipts, income-in-kind, operating expenses and depreciation charges, and the value of inventory changes are provided. A diagram which shows the relationship between these series is given in Appendix A (p. 56).

### 2.2.1 Farm Net Income

Two measures of farm net income are made - realized net income and total net income. Realized net income is the sum of cash receipts, supplementary payments and income-in-kind less farm operating expenses and depreciation charges. Total net income differs from realized net income because an adjustment is made to reflect the value of inventory changes that have occurred in a given year.

Estimates of both types of farm net income are published in Farm Net Income and released on CANSIM.

### 2.2.2 Cash Receipts

Estimates of cash receipts from the sale of agricultural products are made. In addition, this series includes Canadian and Ontario Wheat Board Payments, cash advances on farm-stored crops, deferred grain receipts in Western Canada, Agriculture Stabilization Act deficiency payments,

provincial income stabilization payments and crop insurance indemnities. Amounts which relate to direct interfarm sales within the same province are excluded.

The Beelen report provides further details on the sources, concepts and methods for this series. Estimates are published in Farm Net Income (Cat. 21-202) and Farm Cash Receipts (Cat. 21-001) and released on CANSIM.

### 2.2.3 Income-in-Kind

Some agricultural products may be consumed on the farm. In such cases, the products are valued at prices that could have been received if they had been sold. Estimates of home consumption are made for dairy products, poultry and eggs, meat, fruits and vegetables, honey and maple products, forest products and wool.

Until recently, imputed house rent was a component of this series, but a major revision has been undertaken to remove it from the estimates from 1926 to date. Further details about this series are given in the Beelen report. Estimates are published in Farm Net Income and released on CANSIM.



#### 2.2.4 Operating Expenses and Depreciation Charges

This series presents estimates of farm business costs whether they are paid in cash or accumulated as new debt. Those expenses which are incurred for goods and services which are purchased from other farmers within the same province are excluded. In most instances, direct subsidy payments are deducted from the expense estimates so that only the farmers' net expenses are reported.

Sections 3 and 4 of this report contain information on the sources, concepts and methods which relate to this series. Estimates are published in Farm Net Income and released on CANSIM.

#### 2.2.5 Value of Inventory Changes

In some years, farm production may exceed the amounts sold and it is necessary to store the excess quantity on the farms. The increase in inventory of crops and livestock represents potential income for the future and is included with total gross income for a given year. Similarly, sales and consumption could exceed production and total gross income would be reduced by the amount that inventories are depleted.

Further information about this series can be found in the Beelen report. The estimates are published in Farm Net Income and released on CANSIM.

### 2.3 Adjustments to the Estimates

The net income estimates have been adjusted in three ways:

- (1) Interfarm transfers have been excluded;
- (2) Some receipts and expenses are given on a net basis; and
- (3) Measures have been taken to avoid double counting.

The farm net income series was originally developed to provide provincial farm business income statements. Consequently, when the two major component series of farm gross income and operating expenses and depreciation charges were established it was not necessary to value the transactions occurring between farms in the same province because such interfarm transfers cancel each other out in net income. For example, if a farmer bought feed from another farmer, the feed expense of the purchaser would cancel out the receipts of the seller when provincial net income was calculated. By excluding interfarm transfers there is an underestimation of total receipts and total expenses and data users should be aware of this limitation in the estimates. Appendix B

(p. 58) shows that interfarm expenses for feed at the Canada level were 14 percent of the total expense in 1979 or \$231 million.

Some of the receipts and expenses are estimated on a net basis. Administrative data which are collected for some cash receipts items show the net sales after handling, marketing and transportation charges have been deducted. It is often easier to use this net receipts data rather than try to separate estimates of the gross receipts and the offsetting expenses. The four principal expense series which are reported net of rebates or subsidies are property taxes, interest, fuel and lime.

Doublecounting of gross farm rent expenses is avoided by making adjustments to the taxes, interest and building depreciation series. Rental charges are intended to cover the landlord's expenses for mortgage interest on the rented property, property taxes, insurance, depreciation, repairs and maintenance of buildings and provide some profit for the owner. Estimates of property taxes, interest and depreciation are made from data which pertain to both owned and rented land so the portion of these expenses which relates to the rented land must be removed since the rent expense already includes such expenses. By making these adjustments, expenses for rented land are only shown in the gross farm rent expense series.

Details about adjustments to the cash receipts series can be obtained from the Beelen report or by contacting the Cash Receipts Unit. Section 4 of this report or the Farm Expenses Unit can

provide information about adjustments to the expense series.

#### 2.4 Limitations of the Data

As mentioned previously, the exclusion of interfarm transfers results in a limitation of the data because not all farm purchase and sales transactions are estimated. The reporting of some expenses and receipts on a net basis also results in an underestimation of total receipt and expense transactions. In addition to these limitations which result from the adjustments, some additional limitations should bear consideration.

Two different populations are represented when the statistics are prepared. Cash receipts are estimated mainly on a commodity basis. On the other hand, operating expenses and depreciation charges are estimated on an establishment basis - the establishments being those farms which have potential annual agricultural product sales of \$250 or more.

Expenses are estimated by using an enumerative survey which asks the farmers to report their expenses. In cases where a feedmill buys pigs and sends them to a farm, the feedmill pays for the feed and other associated expenses and hires the farmer under contract to ensure that the pigs are cared for and fed. Consequently, the farmer has no feed expenses to report for the survey. The feedmill is not considered as an agricultural enterprise so it is not contacted and its feed expenses are not included in survey estimates. On the other hand, the receipts from the sales of hogs



are counted in the agricultural sector using the commodity approach and probably in the feedmill sector as well.

The operating arrangement under which the farm is managed sometimes affects the way certain expenditures may be handled and reported in the farmer's accounts. For example, all the wage expenses can be reported by a corporation but a proprietorship or a partnership only reports wages for hired farm labour.

## 2.5 Comparison with Other Countries

To place the Canadian income accounts into perspective, they have been compared with those prepared in the United States, England and Wales. Appendix E (p. 63) includes reprints of tables from their statistical reports.

### 2.5.1 United States

The United States Department of Agriculture has recently made significant changes to their agricultural reports, primarily to separate the earnings of the farm business from farm family income. Production units (establishments) are part of the farm sector, which is also part of the business sector of the national economy, while farm operator families are part of the household sector.

Their balance sheet (page 64) shows assets and claims as at January 1 of a given year. The farm assets include those

items which we publish in the Capital Value series (real estate, livestock and poultry, and machinery and vehicles) and two additional items - crops and financial assets. Claims include total farm debt and equity. At this time, the Canadian accounts do not include equity and the farm debt outstanding data are presented as annual averages.

In the American income statement, the gross receipts side of the farm accounts includes farm marketings, net inventory change, government payments, other farm income and the value of home consumption. It is comparable with the Canadian series on total gross income.

The Americans break the other side of the income statement into two components: (1) nonfactor payments and (2) factor payments. The nonfactor payments include intermediate product expenses (such as feed and fertilizer), capital consumption and business taxes. Factor payments include interest, wages to hired labour, net rent to all landlords and returns to operators. Farm production expenses, which are comparable with the Canadian operating expenses and depreciation charges, are defined to be the sum of the nonfactor payments and the factor payments, with the exception of the returns to operators. The excess of gross receipts on farms over the farm production expenses, which is equivalent to the returns to operators, is comparable with Canadian net farm income.

Total operator income is the sum of income from farm sources (such as returns to operators, imputed net rental value of operator dwellings and net rent to operator landlords) and income from off-farm sources. See page 68 for a summary of all the farm production transactions.

Another table (page 66) is entitled "Farm Sector Cash Flow". It includes a cash transaction summary and a cash flow summary. The cash transactions include cash sources, cash uses and the residual cash income from farming, while net cash flow is the sum of cash income from farming, changes in loans outstanding, net change in currency and demand deposits, and net rent to all landlords less capital expenditures.

An estimate of returns to equity in farm assets is also made (page 67).

Most of the concepts relating to the production expenses are similar to the Canadian concepts. A major exception is that the United States publishes a net rent series while Canada publishes estimates of gross rent. Net rent excludes taxes, insurance, depreciation, real estate interest and miscellaneous operating costs paid by the landlord. The American purchased livestock expense estimates include chicks and poults in addition to the items we consider, that is, interstate movements of feeder cattle and calves, weanling pigs and lambs.

### 2.5.2 England and Wales

Statistics are produced by the Ministry of Agriculture, Fisheries and Food on a per farm basis. Their total farm enterprise output is comparable with Canadian realized gross income, while inputs are comparable with operating expenses and depreciation charges. An adjustment for disposal of previous year's crops is also part of farm net income.

Purchased and homegrown feed and seed are included in inputs. Livestock purchases are deducted from sales to produce net sales figures. Wage expenses for the farm family (excluding the farmer and spouse) are estimated from data on current wage rates. All the farms are regarded as consisting of rented land - implying that a rental value for owner-occupied land is estimated. Rent, both paid and imputed, is combined with repairs in the land and building costs entry. Machinery repairs, contract work, machine rental, fuel, oil and small tools are included in the machinery series. Depreciation is calculated on an original cost basis instead of the replacement cost basis used in Canada and United States. Permanent crops and plantations, such as orchards, are also depreciated.

At the beginning and end of each year, valuations of physical assets are made. The assets include medium term assets (breeding livestock and machinery), short term assets (trading livestock and crops) and other medium and short



term assets (stocks of livestock products, purchased feed, seed and fertilizer, glasshouses and permanent crops). These valuations are averaged and inflated by  $3\frac{1}{2}$  to 4 percent to provide an estimate of tenant's capital. Financial assets and liabilities are not considered here.

Balance sheets are prepared for the beginning and end of the accounting year for tenanted, owner-occupied, mixed tenure and all farms (page 70). Assets include fixed assets (land and buildings, machinery and equipment, and breeding livestock) and current assets (trading livestock, crops, consumable stores, debtors and cash at bank or in hand). Liabilities include loans and net worth.

Another table on the "Sources and Disposition of Funds" is also prepared (page 71), which includes sources such as the sale of land, the sale of fixed assets, depreciation provisions, farm earnings retained in the business, capital funds introduced, grants on fixed assets and increases in loans. Disposition includes new fixed assets by type, and net additions to current assets by type.

## 2.6 Uses of the Statistics

Agricultural finance statistics are reviewed by many data users in government, industry and education, as well as by the public.

Governments are interested in the contribution of the agricultural sector to the economy (see 2.7), the economic well-being of farmers

and the formulation of policies which provide income stabilization and price supports to farmers. Marketing boards monitor the statistics carefully. Businesses which sell farm inputs, such as machinery and fertilizer, and banks which provide agricultural loans have a vital interest in the incomes of farmers. Universities use the statistics for research purposes. Farmer organizations, farmers and individuals review the data for various reasons, such as the comparison of incomes from farming with other occupations.

## 2.7 Reconciliation with National Accounts

Three entries related to agriculture are made in the table entitled "National Income and Gross National Product" which is published by the Gross National Product Division. The entries include (1) accrued net income of farm operators from farm production, (2) net income of non-farm unincorporated business, including rent, and (3) inventory valuation adjustment.

The accrued net income is based on the farm net income estimates after some adjustments have been made. Government transfer payments to persons (but not subsidies) and amounts included elsewhere in GNP (such as corporation profits) are deducted and three items are added - an inventory method adjustment, Newfoundland net income and a grain transaction adjustment.

Residential and non-residential farm rents are part of "net income of non-farm unincorporated business, including rent". Rents are

built up from taxes, depreciation, repairs and other expenses with a return on investment allowance.

Details on the "inventory valuation adjustment" are given in the National Income and Expenditure Accounts Volume 3.

### 3.0 AN OVERVIEW OF EXPENDITURE ESTIMATION

In this section of the report there is an examination of the current and future sources of information for the "Farm Operating Expenses and Depreciation Charges" series. An overview of the methodology is provided which compares the timing and reliability of the forecast, projection, preliminary and final sets of estimates.

#### 3.1 Sources of Information

The majority of the final estimates are derived from two enumerative surveys which are undertaken annually by the Division - the Agriculture Enumerative Survey (AES) and the Farm Enumerative Survey (FES). Other sources include the Farm Input Price Index (FIPI); other Statistics Canada indicators such as the Consumer and Wholesale Price Indexes, agricultural labour figures, crops and livestock estimates and the Censuses of Population and Agriculture; administrative data; mail surveys and professional opinion. (See page 59.)

##### 3.1.1 Enumerative Surveys

Every July, the FES is conducted in the Prairies and the Peace River District of British Columbia, while the AES is taking place in the rest of Canada. Contact is made, by personal interview, with nearly 20,000 respondents who earned or who had the potential to earn at least \$250 from agricultural sales in the previous twelve months. (See page 60.)



Each of these sample probability surveys has a two-stage design - implying that a list frame and an area frame is needed to secure complete coverage. When a list frame is used, an enumerator follows a list - perhaps of those farms with high sales of a particular product. On the other hand, when an area frame is used, all of the farms found within a selected area are enumerated.

Institutional farms, Indian Reserve farms and farms in some marginal areas are excluded from the surveys. Research stations and penitentiary farms are examples of institutional farms. Marginal areas are found in the northern parts of some provinces, in heavily forested areas and near urban centres.

Estimates of standard errors (coefficients of variation) are published in Farm Net Income. If an expense estimate of \$1,000,000 had a coefficient of variation of 10 percent, there would be a 95 percent probability that the true expense was between \$800,000 and \$1,200,000 ( $\$1 \text{ million} \pm 2 \times 10\%$ ).

The response rate is about 90 percent because approximately 5 percent of the sample cannot be contacted and another 5 percent refuse to co-operate voluntarily. Unanswered questions are imputed from other questionnaires under the assumption that respondents and non-respondents have similar characteristics.

Readers seeking more information about topics such as the survey design, response rate, error rate and imputation techniques should refer to Jones (1980), Marentette (1978) and Phillips (1978).

### 3.1.2 The Farm Input Price Index (FIPI)

Projection and preliminary estimates frequently depend on these quarterly indexes, which are prepared by the Prices Division of Statistics Canada, for measures of price change. The Farm Expenses Unit makes use of provincial indexes where they are available.

### 3.1.3 Other Data Sources

Certain expenditure estimates rely upon administrative data from both government and industry. The collected information includes stockyard records, breed association reports and farm debt figures.

Professional opinions are given by personnel from private industry and by various federal and provincial government specialists. These specialists provide assistance in the development of estimates by giving predictions of change and by reviewing figures before they are released.

Various mail surveys which are undertaken by the Division are important as sources of information. The Crops and Livestock Sections of the Division use the results to estimate annual crop acreages and livestock numbers. Much of this quantity data is also used in the production of projection and preliminary expense estimates. Another mail survey collects information on average wage rates in agriculture which is used as a price indicator for those wage expense estimates which are made before the enumerative survey results become available.

Finally, the Census of Agriculture is a very important source of information. It has been the source of benchmarks for many estimates such as the capital value series, which provides an estimate of the current market value of land, buildings, machinery, equipment and livestock on Canadian farms.

#### 3.1.4 Future Alternative Sources

Income tax records have been used experimentally in the production of Newfoundland statistics. Taxation data can not be readily substituted for the published estimates because the concepts differ considerably and the populations sampled are not identical. The selection of a representative sample is difficult because only 60 percent of the farm taxfilers have provided sufficient information to allow the estimation of detailed farm expenses. In future years, it is possible that annual rates of change could be obtained from this source - thereby eliminating the need to obtain expenditure data from probability surveys on an annual basis.

Further details regarding the use of tax data can be obtained by reading the Pursey (1981) article.

In the next few years, the Division will be integrating its surveys and information systems, thereby reducing the response burden on survey participants. This increased efficiency should also help to produce more reliable estimates.

### 3.2 Methodology

Revised estimates are prepared and published for a given year's expenses as information becomes available. The release of data is illustrated by referring to the year 1980 as an example.

The FORECAST, the first estimate, is also the least reliable because it is based on price and quantity change predictions for an upcoming year. Subjective judgment, conventional wisdom and consensus among specialists is needed in making the estimates. Many unforeseen factors, such as weather and international events, can unexpectedly alter these forecasts. The 1980 Forecast of provincial totals was presented at the Agriculture Outlook Conference in December 1979 and was published by Agriculture Canada in the conference proceedings.



The second estimate, the PROJECTION, is made when information regarding three-quarters of a given year is available. The price and quantity data are subject to change as information is collected or becomes available. Therefore, these estimates often undergo significant revision. In December 1980, the 1980 Projection figures were given at the previously mentioned conference. They were published by Agriculture Canada in the proceedings of the conference.

The next estimate, the PRELIMINARY, is prepared approximately five months after the end of a particular year. Price and quantity indicators should be reasonably accurate at this time, although the expenditure estimates are usually still subject to revision. Those items which do not rely on the enumerative surveys may have estimates which will not be subsequently changed. The 1980 Preliminary series were released on CANSIM in May 1981, prior to their publication in the preliminary edition of Farm Net Income (Cat. 21-202P).

The FINAL estimates are the most reliable. Both enumerative surveys undergo careful analysis and are used for most expense estimates. Those estimates which are dependent on other sources such as administrative records are mainly finalized with little chance that more or better information is likely to become available. Final estimates for 1980 were available on CANSIM in December 1981. They were published in the final edition of Farm Net Income (Cat. 21-202).

This fourth set of estimates generally remains unchanged, representing the "final" figures which pertain to a given year. The reader should be aware that a revision could still be required at a future date if for some reason more information becomes available indicating the need for further adjustment or revision.

Historical estimates (from 1926) are recorded in a CANSIM handbook which is available on request to the Farm Expenses Unit. The following related series are prepared by the Unit, published in Farm Net Income and released on CANSIM:

1. Income of Farm Operators from Farming Operations
2. Average Annual Debt Outstanding by Source of Lenders
3. Current Values of Farm Capital.

#### 4.0 FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, BY ITEM

This section of the report examines each of the expense and depreciation charge series. The closely related Farm Debt and Capital Value series are also discussed. In each case, the relevant concepts, adjustments and problems are reviewed first. The sources and methodology of the final and the forecast, projection and preliminary estimates are then given. Further details and explanations concerning the methods can be obtained by contacting the Farm Expenses Unit.

##### 4.1 Taxes

Estimates of property tax expenses for owned and operated land are made for this series. Both municipal and school taxes are included. Rebates and the personal share of the house expense are deducted so that a net farm business expense estimate is published. Taxes on land which is rented to or from others are excluded here. If the operator pays the taxes directly for land which is rented from others then the expense is included with the rent estimate. When a farmer rents land and the landlord takes the responsibility for paying the property taxes, it is assumed that property tax on the land is implicitly included in the rental charge and consequently in the rent estimate.

Final property tax estimates for the Maritimes and Quebec are taken from the AES, which excludes the taxes on land which is rented to or from others. The Ontario government provides information from their

property tax program which is used to compute the farmers' expense. Mill rate, assessment and rebate figures are obtained from administrative data maintained by the provinces of Manitoba, Saskatchewan and Alberta to estimate the farmers' property taxes in those provinces. For the Peace River District of British Columbia, a benchmark for the property tax estimate was established from the 1976 tax estimate provided by the FES which is then projected according to the change in the AES estimate for British Columbia. Current AES estimates are used for the rest of that province.

The final figures are adjusted so that the personal share of the house expense is removed. Estimates which are not based on the AES must also be adjusted to reflect the portion relating to owned and operated land. Census data are used for this purpose. The rented portion of the property tax expense is considered only with the rent expense.

Preliminary estimates may be the same as final ones if administrative data are received early. Otherwise, forecast, projection and preliminary estimates are based on preliminary indications that are provided by provincial tax specialists.

#### 4.2 Gross Farm Rent

This series presents estimates of expenses incurred by farmers for the use of farm property which is owned by others. It implicitly includes property taxes, interest paid on debt which is secured by

the rented property, repairs and depreciation. After these expenses are paid, it is assumed that the rental expense also allows for some profit for the owner.

Although this expense item has two components - cash rent and share rent - it is published only as a total. The reliability of the estimates for the parts is insufficient for their individual release.

#### 4.2.1 Cash Rent

Expenses included in this series are those which are incurred for the rental and leasing of agricultural land and buildings. This estimate includes taxes which are paid by the operator on property which is rented from others. It also includes grazing or community pasture fees, whether on a per acre or per head basis. Rental costs for machinery are excluded here, but are found instead with the Custom Work series.

Final estimates are made from the AES and FES. The annual change in the value per acre, for the two years preceeding the year in question, is used as a price indicator for the forecast, projection and preliminary estimates, while professional judgment is required to assess quantity change.



#### 4.2.2 Share Rent

Farm operators may sometimes make arrangements to pay their rent by giving the owner some of their crops. This implies that they would have a share rent or rent-in-kind expense.

The AES and FES are the sources of final estimates.

Respondents are required to estimate the share rent expense by using the selling price of the crops. Farmers often have considerable difficulty in estimating share rent: although they may know their crop production, the crops may not have been sold yet or final payments may not have been received.

Sometimes answers such as "one-third of the crop" are provided and we must generate an estimate of the expense by following imputation techniques. The reliability of these final figures is often reduced because of these problems and the share rent estimate is therefore combined with cash rent for publication.

A value of production change ratio is used to make the forecast, projection and preliminary estimates. Price and quantities are obtained for wheat, oats, barley, rye, flaxseed, rapeseed, corn, soybeans and potatoes. The quantity figures, which are obtained from the Crops Section of Agriculture Division, improve as the crop-year progresses. Consequently, a projection estimate made in December or the middle of the crop-year is more reliable than the forecast which is estimated

in August at the beginning of the crop-year. Average crop-year prices, which are weighted by disposition and month, are provided by the Cash Receipts Unit.

#### 4.3 Wages to Farm Labour

There are two components to the wage estimate: (1) Cash Wages and (2) Room and Board.

##### 4.3.1 Cash Wages

The total cash wage expense estimate for hired farm labour includes contributions for Unemployment Insurance, Canada Pension Plan and Workmen's Compensation. Amounts paid for institutional wages, housework, custom work or contract work are excluded.

Final estimates are made from the AES and FES. The Farm Wages Survey is used as an indicator of price change for the forecast, projection and preliminary estimates, while the paid workers in agriculture series, which is prepared by the Labour Division from Labour Force Survey results, is used as a measure of quantity change.

#### 4.3.2 Room and Board

An estimate is made of the cash value of such perquisites as housing or lodging, food, fuel, transportation and utilities. For example, if a farmer provides heating fuel for the hired help, the expense would be included with the Room and Board series if it was not already included with the Heating Fuel series. Benefits to the family labour are excluded.

The AES and FES are the sources of final estimates. Forecast, projection and preliminary estimates use the Farm Wages Survey and the Consumer Price Index to measure price change, while the paid workers in agriculture series which is published by the Labour Division is used for quantity change.

#### 4.4 Interest on Indebtedness

The estimate of interest expenses includes mortgage interest on owner occupied land and non-mortgage interest on both owner- and tenant-occupied land. Mortgage interest on rented land is assumed to be part of the rental charge and is accounted for in the rent expense estimate.

Projection, preliminary and final estimates are made by multiplying the outstanding farm debt for each lending source by the average interest rate on the debt. The sum of the interest expenses, by

source, becomes the published estimate after subsidies and the personal share of the house expenses are deducted. Forecast estimates are made by applying a change ratio, which is based on professional judgement, to the previous year's final estimate.

The sources of loans include chartered banks; the Farm Credit Corporation; the Federal Business Development Bank; credit unions; the Treasury Branch of Alberta; the Veterans' Land Administration; provincial government agencies; insurance, trust and loan companies; supply companies, finance companies, dealers and stores; and private individuals.

Debt outstanding and interest rate information is obtained from annual reports and from the Business Finance Division of Statistics Canada, as well as by letter, telephone or survey. When monthly or quarterly figures are supplied, the amount of debt outstanding is averaged for the year and the interest rate is weighted by the amounts outstanding in each month or quarter.

Interest rates are frequently related to the prime rate which is averaged by month and obtained from the Bank of Canada Review. When interest rates change rapidly and frequently, it is difficult to estimate a prime rate for the forecast and projection estimates which are made before data pertaining to a given year become available.

Preliminary and final estimates are therefore more reliable than earlier ones because the accuracy of the debt outstanding and interest rate information is greater.

Estimates of debt outstanding by source of lender are published in Farm Net Income and released on CANSIM.

#### 4.5 Total Machinery Expenses

This series, which measures the operating expenses for motor vehicles and farm machinery, has been published since 1926. The components have changed considerably as a result of the advances made in technology. For instance, an estimate is no longer made for blacksmithing charges. Currently, the following two parts are prepared and published: (1) Fuel, Oil and Lubricants and (2) Machinery Repairs and Other Machinery Expenses. The farmers' personal share of these expenses is excluded because this series pertains to the costs which relate to the farm business only.

Leasing costs are included with Custom Work, a component of Miscellaneous expenses. The purchase of machinery, which is a capital expense, is accounted for in the estimate of Depreciation on Machinery.



#### 4.5.1 Fuel, Oil and Lubricants

Expenses for fuel, oil and lubricants required for motor vehicles and farm machinery are included in this estimate, while fuel expenses for heating, irrigation and grain drying are considered in the Heating Fuel series. Rebates received from the provincial and federal governments are deducted from the estimates and a net expense figure is published.

Final estimates of gross expenses are taken from the AES and FES. Information about rebates is obtained from various provincial government sources. Forecast, projection and preliminary estimates are based on FIPI as an indicator of price change, while tractor numbers are used to measure quantity change. The Canadian Farm and Industrial Equipment Institute (CFIEI) provides information about new tractor sales.

#### 4.5.2 Machinery Repairs and Other Machinery Expenses

This estimate includes the cost of items such as the following: repairs, maintenance, licence, registration, insurance, parts, labour, tires, batteries and antifreeze.

The AES and FES are used for final estimates. Until the survey results become available, FIPI, tractor numbers and sales of repair parts are used to estimate the annual change in costs. These forecast, projection and preliminary figures result from very detailed calculations which are available upon request and are well documented.

## 4.6 Fertilizer and Lime

A separate discussion follows for both the fertilizer and the lime series.

### 4.6.1 Fertilizer

Total expenses for fertilizer purchases are computed for this series. Custom spreading costs are included whenever they can not be distinguished from material costs in the purchase price - otherwise, they are shown with the Custom Work item. Subsidy amounts are deducted from the provincial totals so that a net expense figure is published.

The AES and FES provide the final estimates. Forecast, projection and preliminary figures require the use of FIPI for an indication of price change, while professional opinions are obtained from those in the industry concerning quantity change as there is little reliable statistical information regarding quantities or types of fertilizer sold to Canadian farmers.

### 4.6.2 Lime

Estimates for lime expenses are made for the non-prairie provinces. These figures represent the farmers' net costs because subsidies have been deducted from the gross estimates.

Final figures (which have been reported net of subsidies) are taken from the AES. Professional judgment is used in making decisions about annual change for the forecast, projection and preliminary estimates.

#### 4.7 Other Crop Expenses

There are four components to this series: (1) Pesticides, (2) Seed, (3) Irrigation and (4) Twine, Wire and Containers.

##### 4.7.1 Pesticides

Expenses for pesticides actually include expenses for agricultural chemicals which are used to control all types of weeds, plants, insects, fungus and rodents. When custom application costs cannot be distinguished from the material costs in the purchase price they are included with this series - otherwise, they are reported as Custom Work expenses.

The AES and FES results are used to produce final estimates. Forecast, projection and preliminary estimates rely on Statistics Canada's Industry Selling Price Index as an indicator of price change, while seeded acreage data from the Crops Section of the Agriculture Division are used for quantity change. Early estimates are not as reliable as the final ones because it is difficult to obtain accurate information about seeded acreages.

#### 4.7.2 Seed

Expenses for items such as seed, seedlings, bulbs and cuttings belong in this category. Seed treatment or cleaning costs which can not be distinguished from the material costs in the purchase price are reported here, but are otherwise found with the Custom Work series.

Payments made for purchases that are acquired through commercial channels such as elevators, seed houses and seed dealers are included, but payments made to other farmers are excluded. Since it would be extremely difficult to prepare accurate statistics on interfarm sales, the Division decided that neither interfarm receipts nor expenses should be estimated. There would be no change in net income due to this decision, but the volume of total sales and purchase transactions would be underestimated. The table on page 57 shows that 15 percent of the total seed expenses (\$46 million) were excluded in 1979.

The estimation of the final figures is made from the AES and FES. Forecast, projection and preliminary estimates are made by using FIPI for price change and estimates of seeded acreages (from the Crops Section) for quantity change. The reliability of the early figures is lower than that of the final figures because early quantity estimates are difficult to make.

#### 4.7.3 Irrigation

Estimates of irrigation expenses are made for those provinces where there is a water rate charge, but the cost of operating pumps is excluded. The provincial governments of Saskatchewan, Alberta and British Columbia supply administrative data on water rates and irrigated acreages for each irrigation district. Although the Saskatchewan government pays part of the cost, only the actual expense incurred by the farmers becomes the published estimate. Provincial irrigation specialists provide estimates of annual change which are used for those estimates which are made before the administrative figures become available.

#### 4.7.4 Twine, Wire and Containers

This series reports the costs incurred for the purchase of baler and binder twine, baling wire and small containers. Baskets and boxes used for produce or eggs and potato bags are examples of small containers. Expenses for fencing wire are reported with the Fencing estimate.

The final figures come from the AES and FES. Information on price and quantity change is used for the forecast, projection and preliminary estimates. Price indications are taken from FIPI; tame hay production is used to estimate changes in the quantity of wire purchases; and professional judgment is used to estimate changes in container quantities.



#### 4.8 Feed

This item includes the costs which farmers incur for the purchase of feed and supplements that are acquired through commercial channels - as with seed expenses the payments made to other farmers are excluded. The table on page 58 shows that 14 percent of the total feed expenses (\$231 million) were excluded for 1979. Expenses for hay and straw are allowed when they are used for feed. Custom feeding costs are reported in the Custom Work category.

Final estimates are derived from the AES and FES, while the forecast, projection and preliminary statistics depend on FIPI as a measure of price change and the Livestock Section's animal units figures as an indicator of quantity change.

#### 4.9 Other Livestock Expenses

This group of expenses includes the following components: (1) Feeder Cattle, Calves, Lambs and Weanling Pigs, (2) Breed Association Fees and (3) A.I. Fees and Veterinary Expenses.

##### 4.9.1 Feeder Cattle, Calves, Lambs and Weanling Pigs

Only interprovincial purchases of feeder cattle, feeder calves, feeder lambs and weanling pigs are considered when estimates are prepared for this expense series. Purchases and sales made between farmers within the same province are not estimated because such transactions would net each other out.

Consequently, the feeder expense estimate understates the value of feeder livestock purchases.

Feeder livestock expense estimates are made by the cash Receipts Unit from the Farm Prices Survey, livestock balance sheets, Agriculture Canada's "Blue Book" and advice and information provided by provincial livestock analysts. Preliminary and final estimates are more reliable than forecast and projection estimates because more complete information on livestock numbers and slaughterings is available.

Livestock on farms are generally treated as inventory items and year end stock accumulations or liquidations are monitored in terms of inventory changes. Estimates of the Capital Value of Livestock on farms are made by the Livestock Section of the Division and by analysts in the Farm Expenses Unit. These figures are published in Farm Net Income and released on CANSIM.

#### 4.9.2 Breed Association Fees

Expenses incurred in the registration of livestock are estimated for this series. Two publications are the sources of final estimates: The Holstein - Friesian Association of Canada Annual Report and Canadian National Livestock Records. These sources are also used for the early estimates if they are available. Otherwise, the early figures rely on professional judgment to measure the annual change in this expense.

#### 4.9.3 A.I. Fees and Veterinary Expenses

This series presents estimates of artificial insemination fees and expenses for veterinary services and medicines. The AES and FES are the sources of final estimates of this combined expense item. Forecast, projection and preliminary estimates are made by applying price and quantity ratios to the previous year's final figures, after 1977 weights have been used to separate the two components. The A.I. estimate uses the FIPI for A.I. fees as a measure of price change and the animal units statistics, from the Livestock Section of Agriculture Division, as a measure of quantity change. Veterinary expenses are estimated from the Consumer Price Index for pharmaceuticals and the previously mentioned animal units data.

#### 4.10 Repairs to Buildings

Expenses for materials and wages incurred in the repair and maintenance of farm buildings are included in this estimate as well as the farm business share of costs for repairs to the farm dwelling whether it is located on the farm or elsewhere. Capital expenditures for new construction, renovations and additions are excluded here, but they are accounted for in the estimate of Depreciation on Buildings.

Final estimates are taken from the AES and FES, while forecast, projection and preliminary estimates depend on price and quantity indicators. Price change is measured from FIPI, while quantity is usually held constant. There is little reliable information available concerning the amount of repairs undertaken.

#### 4.11 Electricity and Telephone

These utility expenses pertain to the farm business share only. Costs for installation are excluded.

The AES and FES are used for the estimation of the final figures, while the forecast, projection and preliminary estimates rely on FIPI for price change but quantity is considered to be constant each year. There is a lack of information available on quantities of utilities used by farmers.

#### 4.12 Miscellaneous - Total

This group of estimates is comprised of six components which are not separately published because of the reliability of some of the individual estimates. The six components are: Insurance, Fencing, Custom Work, Heating Fuel, Stabilization Levies and Miscellaneous - Other. Data for each series can only be obtained by contacting the Farm Expenses Unit so that users can be cautioned regarding the limitations and reliability of the estimates.

##### 4.12.1 Insurance

Crop, property and hail insurance are included in this insurance expense estimate. Crop insurance premiums are part of the insurance expense estimate, while crop insurance indemnities are found with cash receipts. Property insurance premiums, which exclude the personal share of the house expenses, are considered as a net expense - indemnities received are deducted from the premiums paid. Hail insurance indemnities are deducted from the premiums to give a net expense estimate. In summary, the insurance expense estimate includes gross crop insurance premiums, net property insurance premiums and net hail insurance premiums. The crop insurance premiums represent more than 80 percent of the insurance estimate.



Estimates are made from the following sources, but professional judgment is used until these sources become available. The Consumer Price Index for home owner's insurance is used to measure annual change for property insurance. Data on crop insurance premiums and indemnities are received from the Crop Insurance Division of Agriculture Canada. Hail insurance figures are taken from the reports of the Manitoba Superintendent of Insurance - private companies, the Manitoba Crop Insurance Corporation, Additional Municipal Hail Limited (Saskatchewan) and the Alberta Hail and Crop Insurance Corporation.

#### 4.12.2 Fencing

Expenses incurred in the repairs and maintenance of fences exclude expenditures for new construction. Both wages and material costs are included in the estimates.

Final estimates are taken from the AES and FES. Price change indications for the forecast, projection and preliminary estimates come from FIPI, while quantity is assumed to be unchanged each year. Very little reliable quantity information is available.

#### 4.12.3 Custom Work

An estimate is made of those operating expenses for custom work and machine hire that are of a recurring nature, while those having benefits that are spread over several years are not included. Custom work expenses for seed treatment and cleaning, fertilizer spreading or pesticide application which have already been counted with seed, fertilizer and pesticide estimates are excluded. The following are examples of other types of work which are applicable: tilling, seeding, swathing, combining and grain drying; grain, livestock and feed trucking; baling, chopping and feedlot cleaning; and renting or leasing of machinery and equipment for farm use.

Farmers may also have receipts for custom work. These receipts are not included with cash receipts in the farm accounts because only sales of agricultural products are applicable there. Instead, a net expense figure is estimated by deducting custom work receipts from expenses or by considering the amounts paid to non-farmers (which is equivalent).

The AES obtains estimates of amounts paid to non-farmers and the FES requests both custom work receipts and expenses. These are the sources of final estimates. Price changes for

the forecast, projection and preliminary estimates require the use of FIPI, while seeded acreages of principal field crops are used as quantity change measures. These early estimates are less reliable than final ones because it is difficult to obtain accurate quantity information.

#### 4.12.4 Heating Fuel

Included in this category are fuel expenses for heating, irrigation and grain drying - those fuel expenses which relate to motor vehicles and farm machinery are found with the Fuel, Oil and Lubricants series. The farm business share of house heating fuel expenses is included in this estimate but the cost of furnaces and fuel tanks is excluded. Propane, natural gas, oil, coal and wood are examples of the types of fuel which are applicable.

Estimates for the final series use the AES and FES as their sources. Price changes are measured by FIPI, while professional judgment is required to assess quantity changes for the forecast, projection and preliminary estimates.

#### 4.12.5 Stabilization Levies

Estimates of levies relating to the Western Grain Stabilization Act (WGSA) and the Saskatchewan Hog Assured Returns Program (SHARP) are obtained from their administrators.

#### 4.12.6 Miscellaneous - Other

Included with this expense item are those farm business costs which are not reported elsewhere. Expenses such as the following belong in this category: small tools and miscellaneous hardware costing less than \$200 per item, advertising, office supplies, business travel, accounting and consulting services, bank services, legal services, memberships, literature and livestock supplies.

Four estimates for this item are made - one for each of the forecast, projection, preliminary and final sets of data. Figures for this category are computed by taking a fixed proportion of the provincial totals of the other operating expenses (excluding depreciation). This proportion, which is based on the historical relationship found by the 1958 Farm Income and Expenditure Survey, differs for each province.

#### 4.13 Depreciation

Depreciation charges are intended to take account of the declining value of the farm buildings and machinery which results because of use and technological change. The estimate which is made purports to represent the replacement cost of the value of buildings and machinery used in a given year.

This series is closely related to another series, Current Values of Farm Capital, which is published in Farm Net Income and released on CANSIM. There are two components: (1) Depreciation on Buildings and (2) Depreciation on Machinery.

##### 4.13.1 Depreciation on Buildings

Estimates of depreciation charges are made for farm buildings which are situated on owner-occupied farms. The personal share of the house depreciation is excluded. Those charges which relate to tenant-occupied farms are assumed to be implicitly part of the rental charge and are therefore estimated with the rent expense series.

The depreciation estimates are dependent on the Capital Value of Land and Buildings series, which is benchmarked to the Census of Agriculture and projected annually by the change in Value per Acre estimates. The Farm Credit Corporation provides appraisal data which are used to prepare these



provincial estimates of the value per acre of farm land and buildings. Estimates are made with the Value per Acre data when they become available but professional judgment is required to prepare the earlier statistics.

Two depreciation rates are applied to the owned buildings: a rate of 3.5 percent for the service buildings and a rate of 2 percent for the dwellings. The 1958 Farm Income and Expenditure Survey is the source of benchmarks for the proportions of the total value of land and buildings pertaining to dwellings and service buildings.

The following unpublished series are available on request to the Farm Expenses Unit: the value of all farm buildings, the value of farm homes, the value of service buildings and the value per acre of farm land and buildings.

#### 4.13.2 Depreciation on Machinery

Although this series is published as a total, estimates of depreciation charges are prepared for three components: autos, trucks and other machinery. These estimates are dependent on the Capital Value of Farm Machinery series, which is benchmarked to the Census of Agriculture. Only the farm business share of these charges is included.

Depreciation on other machinery accounts for approximately 90 percent on the machinery depreciation charges. Estimates for this component are made simultaneously with those for the Capital Value of Other Machinery, which is benchmarked to the Census of Agriculture estimate of Machinery Depreciation after the value of autos and trucks has been deducted.

The capital value of other machinery is adjusted annually to account for new machinery purchases. Since 1978, sales information has been provided by the Canadian Farm and Industrial Equipment Institute (CFIEI). Previously, it was obtained from a Statistics Canada survey of farm implement and equipment sales. Price measures are taken from FIPI. A provincial depreciation rate of 10 or 12 percent is applied to the capital values in order to make the depreciation estimates.

When estimating depreciation on autos, provincial depreciation rates of 11 to 13 percent are applied to the farm business share of the capital value of autos. The Census and FIPI are used as indicators of quantity and price in the preparation of these value estimates.

Similarly, for depreciation on trucks, provincial depreciation rates of 11 to 13 percent are applied to the farm business share of the capital value of trucks. The Census and FIPI are used as quantity and price measures for these capital value statistics.

Final estimates of machinery depreciation are the most reliable because the sales and price information is more accurate. Revisions to intercensal estimates are made every five years when new Census estimates become available.

The unpublished estimates of the three components of both the Depreciation on Machinery and Capital Value of Machinery series can be obtained on request from the Farm Expenses Unit.

## 5.0 SUMMARY

This report has been written to provide information about the current sources, concepts and methods which relate to the "Farm Operating Expenses and Depreciation Charges" series. Mention has also been made of recent changes in the accounts and of plans for the future.

Agriculture in Canada has been changing at a rapid pace and will continue to change in the future. The early Twentieth Century concept of the family farm is gradually becoming obsolete. Production of food in the next century can hardly be imagined, but will no doubt be much different than today.

The Division is committed to producing financial statistics which will reflect the changing picture of food production and will meet the changing needs of data users. Continuous adjustments will be required to the concepts and methods underlying these statistics if the numbers are to continue to accurately reflect Canadian farm incomes and expenditures.

Such an objective requires a dynamic and flexible information system and a concentrated effort. The structure of agriculture must be closely monitored; the best information sources must be tapped; the most efficient survey methods must be used; and the most recent innovations in office technology must be tried. By doing this, the Division will continue towards its goal of producing an accurate financial assessment of the agricultural sector of the Canadian economy.

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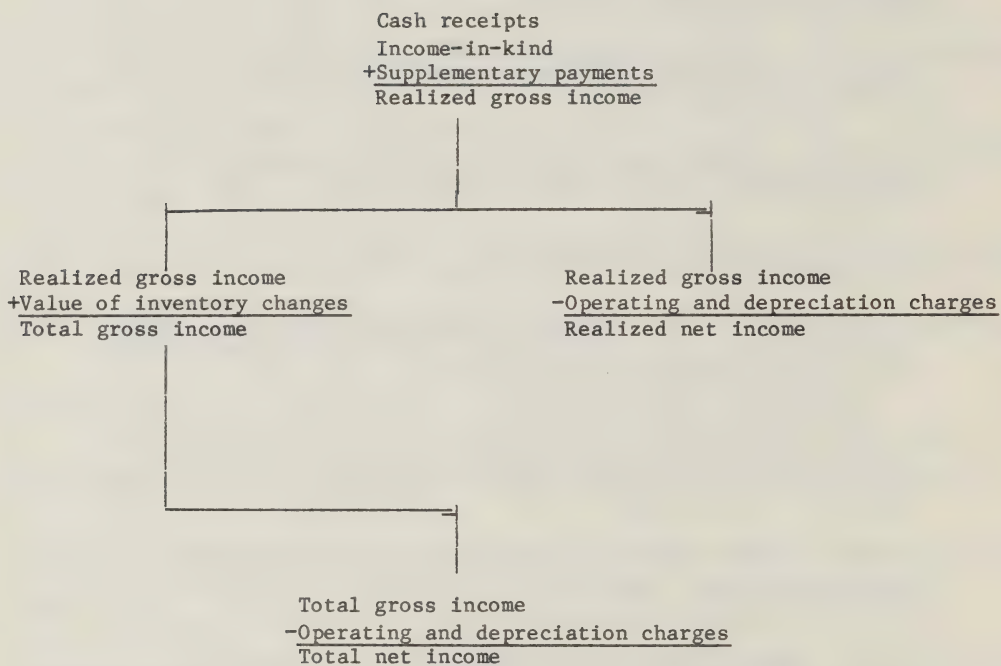
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APPENDIX A

FARM NET INCOME RELATIONSHIPS



APPENDIX B  
1979 Expenses for seed and feed: Total and Commercial

1979 SEED EXPENSES  
(\$000)

|        | TOTAL SEED | COMMERCIAL SEED | % COMMERCIAL SEED |
|--------|------------|-----------------|-------------------|
| P.E.I. | 4,016      | 2,132           | 53.1              |
| N.S.   | 3,098      | 2,944           | 95.0              |
| N.B.   | 4,782      | 2,295           | 48.0              |
| QUE.   | 48,811     | 42,274          | 86.6              |
| ONT.   | 114,535    | 107,739         | 94.1              |
| MAN.   | 38,799     | 33,352          | 86.0              |
| SASK.  | 43,458     | 33,637          | 77.4              |
| ALTA.  | 37,317     | 25,982          | 69.6              |
| B.C.   | 11,256     | 10,579          | 94.0              |
| CANADA | 306,072    | 260,934         | 85.3              |

1979 FEED EXPENSES  
(\$000)

|        | TOTAL FEED | COMMERCIAL FEED | % COMMERCIAL FEED |
|--------|------------|-----------------|-------------------|
| P.E.I. | 14,852     | 12,409          | 83.6              |
| N.S.   | 46,604     | 45,307          | 97.2              |
| N.B.   | 21,958     | 18,581          | 84.6              |
| Que.   | 493,003    | 467,091         | 94.7              |
| ONT.   | 592,183    | 523,642         | 88.4              |
| MAN.   | 104,058    | 83,146          | 79.9              |
| SASK.  | 83,849     | 62,130          | 74.1              |
| ALTA.  | 240,742    | 168,458         | 70.0              |
| B.C.   | 102,641    | 88,405          | 86.1              |
| CANADA | 1,699,890  | 1,469,169       | 86.4              |

APPENDIX C  
A SUMMARY OF THE SOURCES USED FOR FINAL ESTIMATES  
OF FARM OPERATING EXPENSES AND DEPRECIATION CHARGES

|  |       |
|--|-------|
| Taxes  | S, A* |
| Cash Rent                                      | S     |
| Share Rent                                     | S     |
| Cash Wages                                     | S     |
| Room and Board                                 | S     |
| Interest on Indebtedness                       | A*    |
| Fuel, Oil and Lubricants                       | S*    |
| Machinery Repairs and Other Machinery Expenses | S     |
| Fertilizer                                     | S*    |
| Lime   | S     |
| Pesticides                                     | S     |
| Seed   | S     |
| Irrigation                                     | A     |
| Twine, Wire and Containers                     | S     |
| Feed   | S     |
| Feeder Cattle, Calves, Lambs and Weanling Pigs | D     |
| A.I. Fees and Veterinary Expenses              | S     |
| Repairs to Buildings                           | S     |
| Electricity                                    | S     |
| Telephone                                      | S     |
| Insurance                                      | A     |
| Fencing  | S     |
| Custom Work                                    | S     |
| Heating Fuel                                   | S     |
| Miscellaneous - Other                          | D     |
| Depreciation on Buildings                      | D     |
| Depreciation on Machinery                      | D     |

KEY:

S - Enumerative Surveys

A - Administrative Data

D - Division

\*Adjustment needed also



# APPENDIX D A.E.S. EXPENSE QUESTIONS

- 11 -

## SECTION G. SELECTED FARM OPERATING EXPENSES, 1979

Section R 700 1

|  |                               |
|--|-------------------------------|
| Enter figure reported in Box 182, question 5, page 3 .....   | None <input type="checkbox"/> |
| Is the amount reported above greater than zero? Yes <input type="checkbox"/> (Below) No <input type="checkbox"/> | 700 2 (SECTION I)             |

The following questions deal with selected farm operating expenses that you had during the Calendar year 1979. In cases where records are not kept on a Calendar year basis, expenses should be reported for the most current fiscal year end.

Please note that Calendar Year refers to the period January 1 to December 31 and Fiscal Year refers to any 12 month period which a business uses as its income tax year, eg: April 1 to March 31.

Did you have any expenses in 1979 for the following items?

1. Rental or leasing expenses paid for agricultural property rented or leased from others. Include taxes paid by you on property rented or leased from others:
 

|                                  |     |
|----------------------------------|-----|
| 702                              |     |
| None <input type="checkbox"/> \$ | .00 |

  - (a) cash rent or leasing expenses .....
  - (b) share rent or rent in kind (report estimated dollar value) .....
2. Fuel, oil and lubricants used for operating farm vehicles and machinery, amount paid before rebates claimed.
 

|                                  |     |
|----------------------------------|-----|
| 720                              |     |
| None <input type="checkbox"/> \$ | .00 |

 Include farm business share of car .....
3. Repairs and maintenance, license, registration and insurance costs for farm vehicles and machinery.
 

|                                  |     |
|----------------------------------|-----|
| 721                              |     |
| None <input type="checkbox"/> \$ | .00 |

 Include parts, labour and farm business share of car .....
4. (a) Total expenses for seed purchased .....
 

|                                  |     |
|----------------------------------|-----|
| 734                              |     |
| None <input type="checkbox"/> \$ | .00 |

  - (b) What percentage of the total cost of seed was bought through commercial channels? (i.e. elevators, seed houses and seed dealers). Exclude seed bought from other farmers .....
 

|                               |   |
|-------------------------------|---|
| 034                           | % |
| None <input type="checkbox"/> |   |
5. Total expenses for fertilizers purchased. Exclude lime .....
 

|                                  |     |
|----------------------------------|-----|
| 742                              |     |
| None <input type="checkbox"/> \$ | .00 |

N.B. If custom fertilizer spreading costs were included in the purchase price, report the total expense.

SECTION G. SELECTED FARM OPERATING EXPENSES, 1979 (continued)

|  |   |
|--|---|
|  | 744   |
| 6. Total expenses for lime purchased (less subsidies) .....  | None <input type="checkbox"/> \$ ..... .00        |
|  | 752   |
| 7. Total expenses for agricultural chemicals. Include herbicides, insecticides, fungicides and other pesticides .....  | None <input type="checkbox"/> \$ ..... .00        |
| 8. (a) Total amount paid for custom work, contract work and machine rental. Include:<br>- tilling, seeding, swathing, combining and grain drying<br>- seed treatment and cleaning<br>- grain, livestock and feed trucking<br>- baling, chopping and feedlot cleaning<br>- etc.<br>Exclude custom work reported in question 5 - fertilizers, question 6 - lime and question 7 - chemicals ..... | 762<br>None <input type="checkbox"/> \$ ..... .00 |
| (b) What percentage was paid for custom work, contract work and machine rental to non-farmers?   | 062<br>%<br>None <input type="checkbox"/>         |
|  | 772   |
| 9. (a) Total expenses for feed and feed supplements .....  | None <input type="checkbox"/> \$ ..... .00        |
| (b) What percentage of the total cost for feed and feed supplements was purchased through commercial channels? Exclude feed bought from other farmers .....  | 072<br>%<br>None <input type="checkbox"/>         |
|  | 782   |
| 10. Veterinary services, medicine and A.I. fees .....  | None <input type="checkbox"/> \$ ..... .00        |
|  | 792   |
| 11. Repairs to farm buildings. Exclude capital improvements (i.e. new building construction) Include only farm business share of repairs to farm home .....  | None <input type="checkbox"/> \$ ..... .00        |
|  | 793   |
| 12. Expenses for fence repairs. Exclude capital improvements (i.e. new fence construction) .....   | None <input type="checkbox"/> \$ ..... .00        |
|  | 802   |
| 13. Expenses for containers, baler twine, binder twine and baling wire .....   | None <input type="checkbox"/> \$ ..... .00        |

SECTION G. SELECTED FARM OPERATING EXPENSES, 1979 (concluded)

|  |  |
|--|--|
| 14. (a) Total interest expenses for farm business loans or mortgages .....   | <div style="text-align: right;">822</div> <div>None <input type="checkbox"/> \$ .00</div> <div style="text-align: right;">025</div> <div>None <input type="checkbox"/> %</div> |
| (b) What percentage of total interest expenses was for farm operating purposes - eg. for fuel, lubricants, machinery parts and repair, seed, fertilizer, custom work, fence and building repair? ..... |  |
| 15. Telephone expenses. Include only the farm business share .....   | <div style="text-align: right;">832</div> <div>None <input type="checkbox"/> \$ .00</div>  |
| 16. Electricity expenses. Include only electricity costs for the farm business and farm business share of home electricity costs .....   | <div style="text-align: right;">833</div> <div>None <input type="checkbox"/> \$ .00</div>  |
| 17. Heating fuel. Include propane, natural gas, etc. used for the farm business and farm business share of home heating costs .....  | <div style="text-align: right;">834</div> <div>None <input type="checkbox"/> \$ .00</div>  |
| 18. Wages paid to hired agricultural labour. Exclude amount paid for housework, custom work and contract work:   |  |
| (a) Cash wages. Include contributions for Unemployment Insurance, Canada Pension Plan and Workman's Compensation made on behalf of employees .....   | <div style="text-align: right;">852</div> <div>None <input type="checkbox"/> \$ .00</div>  |
| (b) Cash value of housing, lodging, food, fuel, transportation, utilities, etc. provided to hired farm labour. Exclude family labour .....   | <div style="text-align: right;">854</div> <div>None <input type="checkbox"/> \$ .00</div>  |
| 19. Insurance Premiums. Include crop, hail, livestock, fire and wind, etc. Exclude auto, life and personal insurance .....   | <div style="text-align: right;">865</div> <div>None <input type="checkbox"/> \$ .00</div>  |
| 20. Taxes on agricultural property. Include municipal and school taxes. Exclude taxes on land rented to others and taxes on land rented from others .....  | <div style="text-align: right;">873</div> <div>None <input type="checkbox"/> \$ .00</div>  |

# APPENDIX E

## STATISTICS PUBLISHED BY OTHER COUNTRIES

### Section 1: Income and Balance Sheet Statistics (New Methodology)

Table 1--Summary of the farm sector's financial status, production transactions, and operator income, 1977-79

| Item   | 1977   | 1978   | 1979   |
|--|--------|--------|--------|
| <u>Thousands</u>                                       |        |        |        |
| Farms.....   | 2,409  | 2,370  | 2,333  |
| <u>Billion dollars</u>                                 |        |        |        |
| Financial summary: 1/<br>Farm--                        |        |        |        |
| Assets on January 1.....                               | 566.3  | 617.0  | 715.2  |
| Debt (including CCC loans 2/), Jan. 1:                 | 95.4   | 111.2  | 126.8  |
| Equity, January 1.....                                 | 470.8  | 505.7  | 588.4  |
| Change during year in--                                |        |        |        |
| Farm assets.....                                       | 50.7   | 98.2   | 105.8  |
| Farm debt.....   | 15.8   | 15.6   | 19.6   |
| Farm equity.....                                       | 34.9   | 82.7   | 86.1   |
| Transactions summary: 3/                               |        |        |        |
| Gross receipts.....                                    | 101.6  | 118.9  | 140.4  |
| Intermediate product expenses.....                     | 50.9   | 57.0   | 67.9   |
| Capital consumption and business taxes..               | 16.8   | 18.0   | 20.1   |
| Factor payments.....                                   | 33.9   | 43.9   | 52.4   |
| Interest.....  | 7.9    | 9.6    | 12.3   |
| Wages to hired labor.....                              | 7.0    | 7.3    | 8.3    |
| Net rent to all landlords.....                         | 4.6    | 5.5    | 6.0    |
| Returns to operators.....                              | 14.4   | 21.6   | 25.7   |
| Farm operators' income summary:                        |        |        |        |
| Total operator income.....                             | 43.6   | 54.7   | 65.1   |
| Farm sources.....                                      | 18.2   | 25.8   | 30.7   |
| Returns to operators.....                              | 14.4   | 21.6   | 25.7   |
| Net rent to operator landlords.....                    | .5     | .7     | .7     |
| Imputed net rental value<br>of operator dwellings..... | 3.3    | 3.6    | 4.3    |
| Off-farm sources.....                                  | 25.4   | 28.8   | 34.4   |
| <u>Dollars</u>   |        |        |        |
| Income per operator: 4/                                |        |        |        |
| Total income.....                                      | 18,095 | 23,065 | 27,891 |
| Farm sources.....                                      | 7,553  | 10,896 | 13,163 |
| Off-farm sources.....                                  | 10,542 | 12,169 | 14,728 |

1/ From table 2. 2/ Commodity Credit Corporation (CCC) loans. 3/ From table 3.  
4/ Assumes one operator per farm.

Table 2—Summary of the farm balance sheet, January 1, 1977-80

| Item                                     | 1977                   | 1978  | 1979  | 1980 1/ |
|--|------------------------|-------|-------|---------|
| <b>Assets</b>                            |                        |       |       |         |
|  | <u>Billion dollars</u> |       |       |         |
| Total farm assets 2/.....                | 566.3                  | 617.0 | 715.2 | 821.0   |
| Real estate 3/.....                      | 431.1                  | 468.5 | 535.1 | 613.7   |
| Livestock and poultry 4/.....            | 29.0                   | 31.9  | 51.3  | 61.2    |
| Machinery and motor vehicles 5/.....     | 64.1                   | 70.3  | 78.7  | 88.4    |
| Crops 6/.....                            | 22.0                   | 24.9  | 27.4  | 33.1    |
| Financial assets.....                    | 20.1                   | 21.3  | 22.8  | 24.6    |
| <b>Claims</b>                            |                        |       |       |         |
| Total farm debt.....                     | 95.4                   | 111.2 | 126.8 | 146.4   |
| Real estate 7/.....                      | 51.5                   | 58.1  | 64.6  | 75.0    |
| Nonreal estate 8/.....                   | 42.9                   | 48.6  | 56.9  | 67.0    |
| CCC loans 9/.....                        | 1.0                    | 4.5   | 5.2   | 4.5     |
| Equity.....                              | 470.8                  | 505.7 | 588.4 | 674.5   |
| <b>Financial indicators:</b>             |                        |       |       |         |
|  | <u>Percent</u>         |       |       |         |
| Change during year in--                  |                        |       |       |         |
| Assets.....                              | 9                      | 16    | 15    | NA      |
| Debt.....                                | 17                     | 14    | 15    | NA      |
| Equity.....                              | 7                      | 16    | 15    | NA      |
| <b>Ratios:</b>                           |                        |       |       |         |
|  | <u>Ratio</u>           |       |       |         |
| Equity/assets.....                       | 83                     | 82    | 82    | 82      |
| Debt/equity.....                         | 20                     | 22    | 22    | 22      |
| Debt/assets, total.....                  | 17                     | 18    | 18    | 18      |
| Debt/assets, real estate.....            | 12                     | 12    | 12    | 12      |
| Debt/assets, nonreal estate and CCC..... | 33                     | 36    | 35    | 34      |
| Returns to operator/total debt.....      | 15                     | 19    | 20    | NA      |

NA = not available. 1/ Preliminary. 2/ See table 32. 3/ Excludes value of operator dwellings. 4/ Excludes horses, mules and broilers. 5/ Includes only farm share value for trucks and autos. 6/ All crops held on farms including crops under CCC and crops held off farms by farm operators. 7/ Excludes debt on operator dwellings. 8/ Excludes debt for nonfarm purposes. 9/ Nonrecourse Commodity Credit Corporation (CCC) loans secured by crops, and storage and drying facilities owned by farmers.



Table 3--Farm production transactions, 1977-79

| Item   | 1977    | 1978    | 1979    |
|--|---------|---------|---------|
| Million dollars  |         |         |         |
| Gross receipts of farms.....                           | 101,582 | 118,943 | 140,418 |
| Farm marketings 1/.....                                | 92,124  | 112,487 | 132,399 |
| Crops.....   | 44,700  | 53,448  | 63,760  |
| Livestock and products.....                            | 47,423  | 59,038  | 68,639  |
| Net inventory change 2/.....                           | 4,610   | 174     | 2,874   |
| Government payments.....                               | 1,819   | 3,030   | 1,375   |
| Other farm income 3/.....                              | 1,728   | 1,874   | 2,323   |
| Value of home consumption 4/.....                      | 1,301   | 1,378   | 1,447   |
| Nonfactor payments.....                                | 67,640  | 74,994  | 88,048  |
| Intermediate product expenses.....                     | 50,877  | 56,961  | 67,923  |
| Capital consumption 5/.....                            | 13,114  | 14,312  | 16,181  |
| Business taxes.....                                    | 3,650   | 3,721   | 3,943   |
| Factor payments.....                                   | 33,942  | 43,948  | 52,370  |
| Interest.....  | 7,943   | 9,566   | 12,284  |
| Nonreal estate.....                                    | 3,971   | 4,902   | 6,576   |
| Real estate.....                                       | 3,971   | 4,664   | 5,708   |
| Wages to hired labor.....                              | 7,038   | 7,289   | 8,327   |
| Net rent to all landlords.....                         | 4,606   | 5,508   | 6,037   |
| Returns to operators.....                              | 14,356  | 21,585  | 25,722  |
| Total operator income.....                             | 43,593  | 54,666  | 65,068  |
| Farm sources 6/.....                                   | 18,197  | 25,825  | 30,706  |
| Returns to operators.....                              | 14,356  | 21,585  | 25,722  |
| Imputed net rental value<br>of operator dwellings..... | 3,294   | 3,584   | 4,267   |
| Net rent to operator landlords.....                    | 548     | 656     | 717     |
| Off-farm sources 7/.....                               | 25,396  | 28,841  | 34,362  |
| Percent  |         |         |         |
| Transactions indicators:                               |         |         |         |
| Farm marketings/gross receipts.....                    | 91      | 95      | 94      |
| Intermediate product expenses/gross receipts.....      | 50      | 48      | 48      |
| Factor payments/farm marketings.....                   | 37      | 39      | 40      |
| Index  |         |         |         |
| Farm production indexes:                               |         |         |         |
| Output (1967=100).....                                 | 119     | 122     | 129     |
| Inputs (1967=100).....                                 | 105     | 105     | 106     |
| Output/input ratio.....                                | 113     | 116     | 119     |
| Farm price indexes:                                    |         |         |         |
| Prices received.....                                   | 183     | 210     | 241     |
| Prices paid, interest, taxes and wages.....            | 202     | 219     | 250     |
| Prices received/paid ratio.....                        | 91      | 96      | 96      |

1/ Does not include Commodity Credit Corporation (CCC) loans. 2/ Includes CCC stocks at market value. 3/ Includes machine hire, custom work, recreation income and rental value of hired laborers' dwellings. 4/ Includes consumption by resident employees. 5/ Depreciation and accidental damage. 6/ Includes operators' families, corporations, and other farm operator institutions. 7/ Income of operator families only.

Table 4--Farm sector cash flow, 1977-79

| Item   | 1977   | 1978    | 1979    |
|--|--------|---------|---------|
| Million dollars  |        |         |         |
| Cash transaction summary:                                |        |         |         |
| Cash sources.....  | 95,504 | 117,219 | 135,899 |
| Farm marketings.....                                     | 92,124 | 112,467 | 131,399 |
| Crops.....   | 44,700 | 53,448  | 63,760  |
| Livestock and products.....                              | 47,425 | 59,038  | 68,639  |
| Government payments.....                                 | 1,819  | 3,030   | 1,375   |
| Other farm cash receipts 1/.....                         | 1,561  | 1,702   | 2,125   |
| Cash uses.....   | 73,550 | 82,466  | 97,854  |
| Intermediate product expenses.....                       | 50,877 | 56,961  | 67,923  |
| Farm origin.....   | 23,992 | 27,497  | 33,088  |
| Manufactured inputs.....                                 | 13,562 | 14,658  | 17,671  |
| Other.....   | 13,323 | 14,807  | 17,164  |
| Business taxes.....                                      | 3,650  | 3,721   | 3,743   |
| Interest.....  | 7,943  | 9,506   | 12,284  |
| Cash wages to hired labor 2/.....                        | 6,475  | 6,710   | 7,666   |
| Net rent to all landlords.....                           | 4,606  | 5,508   | 6,037   |
| Cash income from farming 3/.....                         | 21,954 | 34,753  | 38,045  |
| Cash flow summary:                                       |        |         |         |
| Cash income from farming 3/.....                         | 21,954 | 34,753  | 38,045  |
| Change in loans outstanding 4/.....                      | 15,784 | 15,582  | 19,638  |
| Real estate loans.....                                   | 6,584  | 6,532   | 10,370  |
| Nonreal estate loans (excluding CCC)....                 | 5,723  | 8,297   | 10,010  |
| Commodity Credit Corporation.....                        | 3,477  | 753     | -742    |
| Net change in farmers' currency and demand deposits..... | 88     | 102     | 147     |
| Net rent to all landlords.....                           | 4,606  | 5,508   | 6,037   |
| Less: Capital expenditures.....                          | 16,756 | 17,942  | 19,869  |
| Net cash flow 5/.....                                    | 25,676 | 38,003  | 43,998  |

1/ Machine hire and custom work and recreational income. 2/ Wages from table 3 less perquisites. 3/ Cash available to farms for payment of asset purchases, loan retirement, and operator cash income. This income is supplemented by loans including CCC loans. 4/ From table 2. 5/ Change in cash available for operator income and real estate purchases.

Table 5--Estimate of returns to equity in farm assets, market value basis, 1977-79

| Item  | 1977    | 1978    | 1979    |
|---|---------|---------|---------|
| <u>Million dollars</u>  |         |         |         |
| Income returns to farm assets and operators' labor and management <u>1/</u> ..... | 26,904  | 36,659  | 44,043  |
| Less:   |         |         |         |
| Returns imputed to operators' labor <u>2/</u> ..                                  | 6,082   | 6,124   | 6,797   |
| Management <u>3/</u> .....  | 3,873   | 4,562   | 5,348   |
| Equals:   |         |         |         |
| Residual income to farm assets.....   | 16,949  | 25,973  | 31,898  |
| Less:   |         |         |         |
| Interest on real estate debt <u>4/</u> .....                                      | 3,971   | 4,664   | 5,708   |
| Interest on nonreal estate debt <u>4/</u> .....                                   | 3,971   | 4,902   | 6,576   |
| Equals:   |         |         |         |
| Residual income to equity.....  | 9,006   | 16,406  | 19,614  |
| Equity in farm assets (market basis) <u>5/</u> ..                                 | 470,818 | 505,735 | 588,390 |
| Nominal capital gains.....  | 43,976  | 96,136  | 97,324  |
| Real capital gains <u>6/</u> .....  | 12,006  | 48,848  | 15,418  |
| <u>Percent</u>  |         |         |         |
| Return as a percentage of equity value:   |         |         |         |
| Residual income.....  | 1.9     | 3.2     | 3.3     |
| Real capital gains.....   | 2.5     | 9.7     | 2.6     |
| Total.....  | 4.4     | 12.9    | 5.9     |

1/ Returns to operators plus interest plus net rent to all landlords (table 1).

2/ Estimated by multiplying the total hours of labor required in U.S. agriculture times the average hourly cash wage only for farmwork minus the total value of hired labor in agriculture.

3/ Estimated to equal 5 percent of the value of the adjusted gross income (cash receipts in agriculture plus the value of Government payments minus the value of livestock and feed purchases) plus the net change in farm inventories.

4/ Excludes interest on operators' dwellings and other nonfarm purposes.

5/ Market value of farm assets minus liabilities.

6/ Nominal revaluation of production assets plus the gain or loss (in year-end dollars) resulting from a change in the purchasing power of the total funds invested or owed. The latter gain or loss is the January 1 current-dollar amount of each asset or liability multiplied by the annual (January-to-January) percentage change in the consumer price index (CPI).

Table 6--Farm production expenses, 1977-79

| Item  | 1977   | 1978   | 1979    |
|---|--------|--------|---------|
| <u>Million dollars</u>                                |        |        |         |
| Intermediate products.....                            | 50,877 | 56,961 | 67,923  |
| Farm origin.....                                      | 23,992 | 27,497 | 33,088  |
| Feed.....   | 14,054 | 14,329 | 17,004  |
| Livestock.....  | 7,033  | 10,113 | 12,684  |
| Seed.....   | 2,904  | 3,054  | 3,400   |
| Manufactured inputs.....                              | 13,562 | 14,658 | 17,671  |
| Fertilizer and lime.....                              | 6,142  | 6,193  | 6,692   |
| Pesticides.....                                       | 2,009  | 2,429  | 3,057   |
| Fuel and oil.....                                     | 4,356  | 4,647  | 6,281   |
| Electricity.....                                      | 1,055  | 1,389  | 1,639   |
| Other.....  | 13,323 | 14,807 | 17,164  |
| Repair and operation.....                             | 5,430  | 6,227  | 6,938   |
| Machine hire, custom work,<br>and contract labor..... | 3,089  | 3,317  | 4,078   |
| Marketing charges.....                                | 1,468  | 1,460  | 1,767   |
| Other.....  | 3,337  | 3,803  | 4,382   |
| Interest.....   | 7,943  | 9,566  | 12,284  |
| Real estate.....                                      | 3,971  | 4,664  | 5,708   |
| Nonreal estate.....                                   | 3,971  | 4,902  | 6,576   |
| Wages to hired labor <u>1</u> /.....                  | 7,038  | 7,289  | 8,327   |
| Net rent to all landlords.....                        | 4,606  | 5,508  | 6,037   |
| Capital consumption <u>2</u> /.....                   | 13,114 | 14,312 | 16,181  |
| Business taxes.....                                   | 3,650  | 3,721  | 3,943   |
| Total production expenses.....                        | 87,227 | 97,357 | 114,696 |

1/ Includes Social Security payments and perquisites.

2/ Depreciation and accidental damage.

## ALL TYPES OF FARMS EXCLUDING HORTICULTURE, REGIONAL GROUPS

Table 7. Output, inputs, net farm income and average valuations per farm on full-time farms, 275-4,199 smd: 1974/75 and 1975/76

|   | North Region  |               |               | East Region   |               |               | West Region   |               |               | ENGLAND       |               |               | Wales         |               |               | £'s per farm  |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|   | 1974/75       | 1975/76       | 1974/75       | 1975/76       | 1974/75       | 1975/76       | 1974/75       | 1975/76       | 1974/75       | 1975/76       | 1974/75       | 1975/76       | 1974/75       | 1975/76       | 1974/75       | 1975/76       |
| No. of Farms  | 472           | 472           | 649           | 649           | 382           | 382           | 382           | 382           | 1,503         | 1,503         | 278           | 278           | 278           | 278           | 278           | 278           |
| Average size of business: smd                         | 981           | 966           | 1,161         | 1,113         | 1,038         | 984           | 1,038         | 984           | 1,064         | 1,023         | 734           | 730           | 734           | 730           | 734           | 730           |
| Average size of farm: total hectares                  | 97            | 98            | 101           | 102           | 75            | 76            | 75            | 76            | 90            | 91            | 91            | 92            | 91            | 92            | 91            | 92            |
| <b>OUTPUT</b>   |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
| <b>Crops</b>  |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
| Wheat: enterprise output                              | 4,925         | 1,569         | 7,247         | 5,603         | 1,553         | 1,378         | 1,553         | 1,378         | 3,614         | 2,883         | 103           | 46            | 103           | 46            | 103           | 46            |
| (of which fed on farm current crop)                   | 53            | 33            | 125           | 123           | 49            | 38            | 49            | 38            | 76            | 65            | 12            | 8             | 12            | 8             | 12            | 8             |
| Barley: enterprise output                             | 3,874         | 4,047         | 5,885         | 6,066         | 2,722         | 2,531         | 2,722         | 2,531         | 4,131         | 4,170         | 632           | 633           | 632           | 633           | 632           | 633           |
| (of which fed on farm current crop)                   | 1,000         | 1,148         | 909           | 950           | 614           | 620           | 614           | 620           | 823           | 823           | 302           | 294           | 302           | 294           | 302           | 294           |
| Other cereals: enterprise output                      | 411           | 355           | 411           | 355           | 355           | 334           | 355           | 334           | 114           | 114           | 113           | 113           | 113           | 113           | 113           | 113           |
| (of which fed on farm current crop)                   | 159           | 127           | 114           | 136           | 411           | 424           | 411           | 424           | 144           | 138           | 60            | 61            | 60            | 61            | 60            | 61            |
| Total cereals: enterprise output                      | 6,210         | 5,970         | 13,583        | 12,098        | 4,608         | 4,243         | 4,608         | 4,243         | 8,148         | 7,419         | 860           | 794           | 860           | 794           | 860           | 794           |
| (of which fed on farm current crop)                   | 1,212         | 1,370         | 1,168         | 1,208         | 1,168         | 1,208         | 1,168         | 1,208         | 1,043         | 1,085         | 374           | 364           | 374           | 364           | 374           | 364           |
| Potatoes: enterprise output                           | 1,176         | 3,929         | 1,969         | 3,617         | 891           | 804           | 891           | 804           | 1,050         | 1,231         | 174           | 174           | 174           | 174           | 174           | 174           |
| (of which fed on farm current crop)                   | 1,176         | 3,929         | 1,969         | 3,617         | 891           | 804           | 891           | 804           | 1,050         | 1,231         | 174           | 174           | 174           | 174           | 174           | 174           |
| Summer crops: enterprise output                       | 1,542         | 3,847         | 2,328         | 4,837         | 731           | 1,304         | 731           | 1,304         | 1,506         | 3,229         | 164           | 439           | 164           | 439           | 164           | 439           |
| (of which fed on farm current crop)                   | 313           | 828           | 823           | 828           | 172           | 130           | 172           | 130           | 435           | 424           | 9             | 18            | 9             | 18            | 9             | 18            |
| Horticultural crops: enterprise output                | 614           | 1,084         | 1,366         | 1,633         | 684           | 838           | 684           | 838           | 899           | 1,180         | 123           | 267           | 123           | 267           | 123           | 267           |
| Other crops: enterprise output                        | 4             | 3             | 19            | 6             | 5             | 4             | 5             | 4             | 9             | 4             | —             | —             | —             | —             | —             | —             |
| (of which fed on farm current crop)                   | 4             | 3             | 19            | 6             | 5             | 4             | 5             | 4             | 9             | 4             | —             | —             | —             | —             | —             | —             |
| Total crops: enterprise output                        | 8,679         | 11,226        | 18,101        | 19,377        | 6,217         | 6,516         | 6,217         | 6,516         | 10,989        | 12,252        | 1,155         | 1,518         | 1,155         | 1,518         | 1,155         | 1,518         |
| (of which fed on farm current crop)                   | 1,218         | 1,311         | 1,189         | 1,214         | 809           | 811           | 809           | 811           | 1,054         | 1,089         | 380           | 376           | 380           | 376           | 380           | 376           |
| <b>Livestock</b>                                      |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
| Rearing and fattening cattle: enterprise output       | 4,305         | 6,869         | 3,093         | 5,473         | 3,976         | 6,640         | 3,976         | 6,640         | 3,765         | 6,303         | 2,818         | 4,694         | 2,818         | 4,694         | 2,818         | 4,694         |
| (of which cattle subsidies)                           | 737           | 608           | 362           | 588           | 509           | 588           | 509           | 588           | 522           | 606           | 862           | 666           | 862           | 666           | 862           | 666           |
| Dairy cattle: enterprise output                       | 142           | 742           | 92            | 600           | 208           | 67            | 208           | 67            | 703           | 793           | 258           | 748           | 258           | 748           | 258           | 748           |
| Milk and milk products: enterprise output             | 6,074         | 7,917         | 4,722         | 5,673         | 9,600         | 12,200        | 9,600         | 12,200        | 6,972         | 8,793         | 5,011         | 6,538         | 5,011         | 6,538         | 5,011         | 6,538         |
| (of which fed on farm)                                | 49            | 62            | 10            | 11            | 10            | 19            | 10            | 19            | 55            | 66            | 95            | 125           | 95            | 125           | 95            | 125           |
| Total dairy: enterprise output                        | 6,216         | 8,659         | 4,814         | 6,272         | 9,808         | 13,057        | 9,808         | 13,057        | 7,121         | 9,496         | 5,270         | 7,287         | 5,270         | 7,287         | 5,270         | 7,287         |
| (of which hill sheep subsidies)                       | 1,632         | 2,406         | 634           | 764           | 1,085         | 1,405         | 1,085         | 1,405         | 1,083         | 1,453         | 2,369         | 3,286         | 2,369         | 3,286         | 2,369         | 3,286         |
| Sheep and wool: enterprise output                     | 3,584         | 3,393         | 4,855         | 6,130         | 2,233         | 2,574         | 2,233         | 2,574         | 3,268         | 4,032         | 481           | 582           | 481           | 582           | 481           | 582           |
| (of which hill sheep subsidies)                       | 2,710         | 2,406         | 1,420         | 1,420         | 93            | 71            | 93            | 71            | 605           | 627           | 113           | 157           | 113           | 157           | 113           | 157           |
| Pigs: enterprise output                               | 1,255         | 1,160         | 670           | 786           | 367           | 260           | 367           | 260           | 720           | 692           | 85            | 62            | 85            | 62            | 85            | 62            |
| Legs and carcasses: enterprise output                 | 16,605        | 22,850        | 15,337        | 20,873        | 17,661        | 24,019        | 17,661        | 24,019        | 16,567        | 22,611        | 11,143        | 16,021        | 11,143        | 16,021        | 11,143        | 16,021        |
| (of which total products fed on farm)                 | 378           | 62            | 10            | 11            | 303           | 119           | 303           | 119           | 55            | 66            | 95            | 125           | 95            | 125           | 95            | 125           |
| Miscellaneous revenue                                 | 49            | 483           | 660           | 861           | 363           | 457           | 363           | 457           | 469           | 603           | 138           | 154           | 138           | 154           | 138           | 154           |
| <b>TOTAL FARM ENTERPRISE OUTPUT</b>                   | <b>25,662</b> | <b>34,559</b> | <b>34,098</b> | <b>41,111</b> | <b>24,242</b> | <b>30,992</b> | <b>24,242</b> | <b>30,992</b> | <b>28,026</b> | <b>35,467</b> | <b>12,436</b> | <b>17,691</b> | <b>12,436</b> | <b>17,691</b> | <b>12,436</b> | <b>17,691</b> |
| (of which total fed on farm current crop)             | <b>1,268</b>  | <b>1,372</b>  | <b>1,199</b>  | <b>1,225</b>  | <b>909</b>    | <b>929</b>    | <b>909</b>    | <b>929</b>    | <b>1,109</b>  | <b>1,155</b>  | <b>475</b>    | <b>500</b>    | <b>475</b>    | <b>500</b>    | <b>475</b>    | <b>500</b>    |
| Adjustment for disposal of previous year's crops      | 44            | 90            | 222           | 270           | 254           | 151           | 254           | 151           | 184           | 175           | 19            | 26            | 19            | 26            | 19            | 26            |
| <b>INPUTS</b>   |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
| Labour (excluding farmer and spouse)                  | 2,576         | 3,179         | 4,079         | 4,948         | 2,990         | 3,563         | 2,990         | 3,563         | 3,249         | 3,917         | 1,186         | 1,510         | 1,186         | 1,510         | 1,186         | 1,510         |
| Feed — purchased                                      | 7,029         | 7,056         | 6,963         | 7,362         | 6,101         | 6,960         | 6,101         | 6,960         | 6,656         | 7,125         | 3,306         | 3,943         | 3,306         | 3,943         | 3,306         | 3,943         |
| — home grown  | 1,575         | 1,794         | 1,979         | 2,027         | 1,506         | 1,556         | 1,506         | 1,556         | 1,688         | 1,785         | 721           | 760           | 721           | 760           | 721           | 760           |
| Seed — purchased                                      | 542           | 542           | 1,136         | 1,439         | 491           | 589           | 491           | 589           | 727           | 905           | 145           | 202           | 145           | 202           | 145           | 202           |
| — home grown  | 101           | 109           | 124           | 129           | 46            | 49            | 46            | 49            | 88            | 93            | 12            | 12            | 12            | 12            | 12            | 12            |
| Fertilisers (excluding depreciation)                  | 1,268         | 1,829         | 1,936         | 2,728         | 1,506         | 2,080         | 1,506         | 2,080         | 1,879         | 2,232         | 735           | 1,101         | 735           | 1,101         | 735           | 1,101         |
| Machinery (excluding depreciation)                    | 1,461         | 1,806         | 2,499         | 3,044         | 1,622         | 1,984         | 1,622         | 1,984         | 1,879         | 2,299         | 775           | 1,054         | 775           | 1,054         | 775           | 1,054         |
| Miscellaneous   | 1,830         | 2,215         | 3,283         | 3,481         | 2,093         | 2,610         | 2,093         | 2,610         | 2,248         | 2,868         | 1,008         | 1,274         | 1,008         | 1,274         | 1,008         | 1,274         |
| Land and building costs                               | 1,864         | 2,215         | 3,283         | 3,481         | 2,093         | 2,610         | 2,093         | 2,610         | 2,248         | 2,868         | 1,008         | 1,274         | 1,008         | 1,274         | 1,008         | 1,274         |
| Depreciation  | 1,379         | 1,379         | 1,379         | 1,379         | 964           | 1,034         | 964           | 1,034         | 1,193         | 1,406         | 630           | 724           | 630           | 724           | 630           | 724           |
| Total inputs (excluding farmer and spouse)            | 19,301        | 22,456        | 26,315        | 30,438        | 19,452        | 22,957        | 19,452        | 22,957        | 21,768        | 25,525        | 9,711         | 11,911        | 9,711         | 11,911        | 9,711         | 11,911        |
| <b>NET FARM INCOME</b>                                | <b>6,404</b>  | <b>12,193</b> | <b>8,005</b>  | <b>10,543</b> | <b>5,043</b>  | <b>8,186</b>  | <b>5,043</b>  | <b>8,186</b>  | <b>6,441</b>  | <b>10,117</b> | <b>2,744</b>  | <b>5,811</b>  | <b>2,744</b>  | <b>5,811</b>  | <b>2,744</b>  | <b>5,811</b>  |
| (of which valuation change — total [excl. machinery]) | 976           | 3,681         | 1,304         | 2,356         | 637           | 2,116         | 637           | 2,116         | 961           | 2,705         | —156          | 1,938         | —156          | 1,938         | —156          | 1,938         |
| — breeding livestock                                  | 44            | 1,563         | 34            | 1,304         | 77            | 778           | 77            | 778           | 238           | 968           | —167          | 920           | —167          | 920           | —167          | 920           |
| Labour income per farm at 5%                          | 7,910         | 14,045        | 10,746        | 11,968        | 6,950         | 10,304        | 6,950         | 10,304        | 8,515         | 12,685        | 3,258         | 6,597         | 3,258         | 6,597         | 3,258         | 6,597         |
| <b>AVERAGE VALUATIONS (including machinery)</b>       | <b>21,430</b> | <b>25,531</b> | <b>26,775</b> | <b>30,477</b> | <b>22,072</b> | <b>24,917</b> | <b>22,072</b> | <b>24,917</b> | <b>23,509</b> | <b>26,999</b> | <b>13,445</b> | <b>14,615</b> | <b>13,445</b> | <b>14,615</b> | <b>13,445</b> | <b>14,615</b> |



## LIABILITIES AND ASSETS SURVEY, ENGLAND AND WALES

Table B4. Balance sheets for the beginning and end of 1975 % accounting year for all types of farming (excluding horticulture) by type of tenure on farms 275-4,199 smd (average full-time)

| Type of Tenure  | Tenanted |        | Owner Occupied |        | Farms with Mixed Tenure |          | All Types of Tenure |        | £'s per farm |
|---|----------|--------|----------------|--------|-------------------------|----------|---------------------|--------|--------------|
|   | 1975     | 1976   | Change %       | 1975   | 1976                    | Change % | 1975                | 1976   |              |
| N. of Farms   | 281      | 281    |                | 245    | 221                     |          | 724                 | 724    |              |
| Average Size of Business, smd                           | 856      | 856    |                | 789    | 1,014                   |          | 891                 | 891    |              |
| Average Size of Farm, hectares                          | 81       | 81     |                | 69     | 90                      |          | 80                  | 80     |              |
| <b>ASSETS</b>   |          |        |                |        |                         |          |                     |        |              |
| Fixed Assets  |          |        |                |        |                         |          |                     |        |              |
| Land and buildings (of which valuation change)          | 1,571    | 1,948  | 24             | 61,825 | 63,920                  | 3        | 53,992              | 55,878 | 3            |
| Machinery and equipment                                 | 5,533    | 6,784  | 21             | 4,716  | 5,673                   | 20       | 6,617               | 7,980  | 21           |
| Breeding livestock (of which valuation change)          | 6,214    | 7,468  | 20             | 5,681  | 6,520                   | 15       | 6,473               | 7,635  | 18           |
| Total fixed assets                                      | 13,318   | 16,200 | 22             | 72,242 | 76,113                  | 5        | 67,082              | 71,493 | 7            |
| Current Assets  |          |        |                |        |                         |          |                     |        |              |
| Trading livestock                                       | 4,195    | 5,040  | 20             | 3,939  | 4,629                   | 18       | 4,362               | 5,306  | 22           |
| Crops   | 2,771    | 2,897  | 4              | 2,646  | 2,674                   | 1        | 4,091               | 4,222  | 3            |
| Consumable stores                                       | 1,784    | 2,356  | 32             | 1,222  | 1,610                   | 32       | 2,221               | 2,899  | 31           |
| Debtors   | 1,429    | 1,902  | 33             | 1,358  | 1,858                   | 44       | 2,023               | 2,239  | 11           |
| Cash at bank and in hand                                | 1,439    | 1,658  | 15             | 1,079  | 1,368                   | 27       | 1,404               | 1,869  | 33           |
| Total current assets                                    | 11,618   | 13,833 | 19             | 10,180 | 12,148                  | 19       | 14,101              | 16,535 | 17           |
| TOTAL ASSETS (a)  | 24,937   | 30,033 | 20             | 82,423 | 88,263                  | 7        | 81,183              | 88,028 | 8            |
| <b>LIABILITIES</b>                                      |          |        |                |        |                         |          |                     |        |              |
| Long and Medium Term Loans                              |          |        |                |        |                         |          |                     |        |              |
| Agricultural Mortgage Corporation                       | —        | —      | —              | 2,001  | 2,246                   | 12       | 1,893               | 2,016  | 6            |
| Building Societies (of which valuation change)          | 24       | 22     | -8             | 47     | 45                      | -4       | 130                 | 153    | 18           |
| Bank loans  | 152      | 229    | 52             | 77     | 104                     | 35       | 347                 | 395    | 14           |
| Loans from relatives                                    | 444      | 252    | -43            | 515    | 844                     | 64       | 959                 | 1,008  | 5            |
| Other   | 105      | 101    | -4             | 1,530  | 1,775                   | 16       | 1,204               | 1,283  | 7            |
| Total long and medium term loans                        | 755      | 831    | 10             | 4,508  | 488                     | -4       | 338                 | 360    | 7            |
| Short Term Loans  |          |        |                |        |                         |          |                     |        |              |
| Hire purchase   | 122      | 215    | 76             | 60     | 111                     | 85       | 52                  | 54     | 4            |
| Creditors   | 1,837    | 2,017  | 10             | 1,356  | 1,857                   | 37       | 1,853               | 2,030  | 10           |
| Bank overdraft  | 1,991    | 2,006  | 1              | 2,852  | 2,855                   | 24       | 3,455               | 3,126  | -10          |
| Other   | 43       | 28     | -35            | 18     | 67                      | 272      | 38                  | 27     | -29          |
| Total short term loans                                  | 3,992    | 4,265  | 7              | 4,285  | 4,721                   | 10       | 5,399               | 5,236  | -3           |
| Net worth   | 20,190   | 24,937 | 24             | 73,462 | 78,040                  | 6        | 70,914              | 77,576 | 9            |
| TOTAL LIABILITIES                                       | 24,937   | 30,033 | 20             | 82,423 | 88,263                  | 7        | 81,183              | 88,028 | 8            |
| NET FARM INCOME 1975/76                                 |          | 9,318  |                |        | 7,604                   |          |                     | 10,409 | 9,130        |
| <b>RATIOS</b>   |          |        |                |        |                         |          |                     |        |              |
| Current assets as % of current liabilities              | 291      | 324    |                | 238    | 257                     |          | 261                 | 316    |              |
| Liquid assets as % of current liabilities               | 72       | 83     |                | 35     | 68                      |          | 63                  | 76     |              |
| Total assets as % of total liabilities (less net worth) | 525      | 589    |                | 920    | 863                     |          | 790                 | 842    |              |
| Long and medium term loans as % of net worth            | 4        | 3      |                | 6      | 7                       |          | 7                   | 7      |              |

(a) After subtracting depreciation, sales of assets and government grants.

## LIABILITIES AND ASSETS SURVEY, ENGLAND AND WALES

Table 91. Sources and disposition of funds during 1975/76 by type of tenure and type of farming on farms 275-4,199 smd (average full-time)

| Type of Tenure                                    | TENANTED FARMS |           |          |               | OWNER-OCCUPIED FARMS |           |          |               | FARMS WITH MIXED TENURE |           |          |               |
|---|----------------|-----------|----------|---------------|----------------------|-----------|----------|---------------|-------------------------|-----------|----------|---------------|
|   | Dairy          | Livestock | Cropping | All Types (a) | Dairy                | Livestock | Cropping | All Types (a) | Dairy                   | Livestock | Cropping | All Types (a) |
| No. of Farms                                      | 134            | 73        | 51       | 281           | 102                  | 75        | 54       | 245           | 83                      | 52        | 63       | 221           |
| Average Size of Business: smd                     | 872            | 671       | 972      | 856           | 880                  | 599       | 870      | 789           | 1,105                   | 697       | 976      | 1,014         |
| Average Size of Farm: hectares                    | 53             | 122       | 112      | 81            | 49                   | 90        | 98       | 69            | 68                      | 110       | 102      | 101           |
| SOURCE OF FUNDS FOR NEW INVESTMENT                |                |           |          |               |                      |           |          |               |                         |           |          |               |
| 1. Sales of land                                  | —              | —         | —        | —             | 4.3                  | 0.4       | 0.4      | 1.8           | —                       | 4.7       | 2.2      | 1.3           |
| 2. Sales of other fixed assets                    | 11.1           | 10.6      | 20.5     | 14.3          | 6.4                  | 9.1       | 10.2     | 8.8           | 8.5                     | 9.6       | 13.1     | 9.8           |
| 3. Depreciation provisions                        | 19.5           | 20.4      | 23.7     | 19.7          | 16.1                 | 16.7      | 15.8     | 15.3          | 13.3                    | 16.1      | 19.9     | 15.9          |
| 4. Funds retained in business                     | 43.0           | 29.7      | 34.5     | 41.2          | 35.2                 | 26.0      | 30.9     | 33.3          | 36.4                    | 32.5      | 52.7     | 44.3          |
| 5. Capital funds raised                           | 15.2           | 27.1      | 14.4     | 16.5          | 21.5                 | 32.8      | 14.0     | 19.4          | 32.0                    | 23.4      | 16.4     | 22.7          |
| 6. Grants on fixed assets (b)                     | 3.4            | 1.1       | 1.6      | 2.4           | 4.9                  | 4.0       | 2.6      | 4.2           | 4.7                     | 4.0       | 4.3      | 4.2           |
| 7. Increase in loans:                             |                |           |          |               |                      |           |          |               |                         |           |          |               |
| (i) long and medium term                          | 3.3            | 0.6       | —1.8     | 1.3           | 9.2                  | 10.8      | 21.6     | 12.0          | 7.2                     | 2.7       | —2.4     | 3.8           |
| (ii) short term                                   | 4.4            | 11.7      | 7.1      | 4.6           | 2.4                  | 0.1       | 4.5      | 6.3           | —2.0                    | 7.0       | 10.2     | —1.8          |
| TOTAL   | 100.0          | 100.0     | 100.0    | 100.0         | 100.0                | 100.0     | 100.0    | 100.0         | 100.0                   | 100.0     | 100.0    | 100.0         |
| DISPOSITION OF FUNDS BETWEEN ASSETS               |                |           |          |               |                      |           |          |               |                         |           |          |               |
| 8. New fixed assets at gross cost including grant |                |           |          |               |                      |           |          |               |                         |           |          |               |
| (i) Land and buildings                            | 12.2           | 7.2       | 4.2      | 9.0           | 43.7                 | 31.6      | 30.7     | 35.0          | 43.7                    | 30.1      | 23.1     | 32.6          |
| (ii) Machinery, movable buildings and equipment   | 49.7           | 47.7      | 68.9     | 55.1          | 35.3                 | 37.6      | 42.1     | 37.6          | 33.0                    | 38.3      | 54.7     | 40.4          |
| (iii) Breeding livestock                          | 2.0            | —2.1      | —1.9     | —1.7          | 0.1                  | —2.3      | —0.4     | —1.2          | —2.5                    | 0.5       | —0.7     | —             |
| 9. Net additions to current assets                |                |           |          |               |                      |           |          |               |                         |           |          |               |
| (i) Physical working assets                       | 21.2           | 34.1      | 21.6     | 25.9          | 13.0                 | 26.2      | 5.6      | 16.2          | 16.5                    | 22.8      | 12.6     | 19.4          |
| (ii) Liquid assets and debtors                    | 14.8           | 13.2      | 7.2      | 11.8          | 8.0                  | 7.0       | 22.0     | 12.4          | 9.2                     | 8.2       | 10.3     | 7.5           |
| TOTAL   | 100.0          | 100.0     | 100.0    | 100.0         | 100.0                | 100.0     | 100.0    | 100.0         | 100.0                   | 100.0     | 100.0    | 100.0         |
| £'s per farm                                      | 4,772          | 4,358     | 9,571    | 5,884         | 5,410                | 4,680     | 14,577   | 6,872         | 8,394                   | 5,108     | 10,782   | 9,046         |
| Fixed asset revaluation not included above (c)    | 1,755          | 1,055     | 79       | 1,353         | 2,028                | 299       | —672     | 1,054         | 1,473                   | 2,841     | —3,698   | 610           |

(a) Includes Pigs and Poultry, Mixed, but excludes Horticulture.

(b) Such as Farm Capital Grant Scheme.

(c) Fixed asset revaluation is the change in the estimated market value of land, buildings and breeding livestock as reflected in the end-year balance sheets.













